

REMARKS

Claims 1-38 were pending in the present application at the time of the Office Action.

Claims 1-38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,467,052 to Kaler et al. ("Kaler").

Claims 1-8 and 14-18 have been canceled by the present amendment without prejudice.

Claims 39-46 have been added by the present amendment.

For at least the reasons stated below, the Applicants respectfully traverse the above rejections and objections and submit that all pending claims are allowable.

35 U.S.C. § 103 Rejections

Turning to the rejections of claims 1-38 under 35 U.S.C. § 103(a) as being unpatentable over *Kaler*, the Applicants respectfully traverse these rejections.

According to the Manual of Patent Examining Procedure, § 2142, "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure."

Claims 1-8 have been canceled by the present application without prejudice. Such claims have been canceled to focus the examination and to expedite allowance of other pending claims. Since such claims have been canceled, the statements in the Office Action regarding such claims are now moot and will not be addressed by the Applicants at the present time. The Applicants, however, expressly reserve the right to challenge any or all of such statements in the future should the need arise (e.g., if such statements should become relevant by appearing in a future rejection of a claim).

Turning next to independent claim 9, such claim is directed to a modem. The Office Action, on page 10, admits that *Kaler* does not disclose "that the communication device" is a modem. Though the Applicants do not necessarily agree with the characterization of *Kaler*'s

computing system as a “communication device”, the Applicants do agree that *Kaler* does not disclose that *Kaler*’s computing system is a modem.

However, the Office Action, on page 10, then states that since it is well known within the computing art to utilize a modem as a communication device and one of ordinary skill in the art might be motivated to analyze the performance of a modem, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. First, the Applicants do not agree that one of skill in *Kaler*’s distributed data processing system art would be motivated to analyze the performance of a modem. Secondly, even if, for the sake of argument only, such statement is true, the common utilization of a modem as a communication device does not cure the deficiencies of *Kaler*, nor does the statement that one might want to analyze the performance of a modem.

Kaler (e.g., at FIG. 1 and col. 8, line 20 to col. 10, line 43) illustrates a hardware and operating environment with which embodiments of *Kaler*’s alleged invention can be practiced. The general-purpose computing or information-handling system 80 includes a PC 20 *and a modem 54*. Assuming, for the sake of argument only, that *Kaler*’s system 80 is a communication device as stated in the Office Action, such a communication device already has a modem. *Kaler* discusses the modem 54 briefly at col. 10, lines 3-8, stating, “When used in a WAN networking environment such as the Internet, PC 20 typically includes modem 54 or other means for establishing communications over network 52. Modem 54 may be internal or external to PC 20 and connects to system bus 23 via serial-port interface 46 in the embodiment shown.”

Since *Kaler* already discusses utilizing a modem for communication and such modem clearly does not meet the requirements of claim 9, the fact that a modem is a common computer network communication device and that one might want to analyze its performance adds nothing to the disclosure of *Kaler* that helps *Kaler*’s disclosure teach each of the modem requirements of claim 9. For at least this reason, the Applicants submit that claim 9 is allowable over *Kaler*, as are all claims depending therefrom, including claims 10-13 and new claims 39-41. The Applicants also submit that each of dependent claims 10-13 and 39-41 is independently allowable.

Additionally, claim 9, as currently amended, states “a first input that operates to receive information from a first device that is utilizing the modem to communicate with a second device

through a communication network; a second input that operates to receive information from the second device through the communication network; and a recording module communicatively coupled to the first input and the second input that operates to cause input information arriving at one or both of the first input and the second input during real-time operation of the modem to be recorded for subsequent non-real-time analysis".

The Office Action, at page 9, states that *Kaler* discloses "a recording module communicatively coupled to the first input and the second input that causes input information arriving at one or both of the first input and the second input during real-time operation of the communication device to be recorded for subsequent non-real-time analysis (see Figure 2: 100; Column 11: 20-27, "VSA 100 is coupled to one or more machines, e.g. machines 102, 104, 106, and 108. Each machine includes a Local Event Concentrator (LEC) 112, 152.").

In FIG. 1 of *Kaler*, the modem 54 appears to be connected to the PC 20. The Modem 54 also appears to be coupled to a remote computer 49 through a wide area network 52. However, the Applicants were unable to find any indication in *Kaler* of the modem 54 comprising "a recording module communicatively coupled to the first input and the second input that operate to cause input information arriving at one or both of the first input and the second input during real-time operation of the modem to be recorded for subsequent non-real-time analysis." *Kaler*'s VSA is a visual studio analyzer, which clearly does not reside on a modem. *Kaler*'s LEC is a Local Event Coordinator that resides in various computing systems. For example, at col. 3, line 66 to col. 4, line 2, *Kaler* states, "Insofar as the overall architecture and operation of the present invention is concerned, each machine where a portion of a distributed software application executes has at least one local event concentrator (LEC)." Again, the Applicants submit that there is no indication of such an LEC residing on a modem. For example, *Kaler* provides no indication of a modem (e.g., modem 54) having a portion of a distributed software application. As discussed previously, the fact that a modem is a common computer network communication device, which *Kaler* already happens to be using, and that one might want to analyze the modem's performance, does nothing to suggest that *Kaler*'s VSA and/or LEC reside on a modem, much less teach all of the elements of claim 9.

For at least this additional reason, the Applicants submit that claim 9 is allowable over *Kaler*, as are all claims depending therefrom, including claims 10-13 and new claims 39-41. The

Applicants also submit that each of dependent claims 10-13 and 39-41 is independently allowable.

Turning next to independent claim 10, such claim, as currently amended, depends from claim 9 and states, “further comprising a command input that receives modem control commands from the first device, and wherein the recording module further causes modem control commands arriving at the command input during real-time operation of the modem to be recorded for subsequent non-real-time analysis”.

The Office Action states that *Kaler* discloses “a command input that receives communication device control commands from a first device, and wherein the recording module further causes communication device control commands arriving at the command input during real-time operation of the communication device to be recorded for subsequent non-real-time analysis (*see Column 11: 20-27 and 66-67 through Column 12: 1-9, 'Events created by IECs 193, 195, 197 and DECs 189, 194, 196, 198 are collected by LEC 199. The LEC 199 collects events generated by the IECs and DECs and sends these events to the user's control station, VSA 100, for analysis and display in a user-determined format.'*)”. The Applicants respectfully disagree with this characterization of *Kaler*.

For example, the Applicants submit that the collection and communication of events by *Kaler*'s IECs, DECs and/or LECs does not teach a “modem ... comprising a command input that receives modem control commands from the first device [that is utilizing the modem to communicate with a second device through a communication network]” nor does it teach the modem comprising a recording module that causes such modem control commands arriving at the command input of the modem during real-time operation of the modem to be recorded for subsequent non-real-time analysis. There is no indication in *Kaler* of a modem (*e.g.*, modem 54) having such an input or recording module. Additionally, as discussed previously, the statement, whether true or not, that a modem is a widely used communication device that one might want to analyze does not cure the above-mentioned deficiencies of *Kaler*. For at least these reasons, the Applicants submit that claim 10 is allowable over *Kaler*.

Turning next to claim 11, such claim, as currently amended, depends from claim 9 and states, “wherein the first device is a personal computer, and wherein the recording module operates to cause the input information arriving at the first input from the personal computer and

arriving at the second input from the second device through the communication network, during real-time operation of the modem, to be recorded on a memory device of the personal computer.”

The Office Action, at page 11, states that *Kaler* discloses “wherein the first device is a computer system, and wherein the recording module causes the input information arriving at the first input and the second input during real-time operation of the communication device to be recorded on a memory device of the computer system (*see Column 8: 26-29; Column 12: 29-32, 'Data collection begins in the IECs. An IEC is a subroutine that marshals the desired data into a special format and puts it in a shared memory buffer.'; Column 13: 21-26*)”. The Applicants respectfully disagree with this characterization of *Kaler*.

First, as explained previously, *Kaler* does not provide any indication of one of *Kaler*’s IECs residing on a modem, and the statement, whether true or not, that a modem is a common communication device that one might want to analyze does not cure this deficiency of *Kaler*. Secondly, even if, for the sake of argument only, *Kaler* did teach an IEC residing on a modem, there is no indication of an IEC receiving input information from a personal computer and causing such information (among other things) to be stored back on a memory device of the personal computer. Also, the statement, whether true or not, that a modem is a common computer communication device that one might want to analyze does not cure this deficiency of *Kaler*. For at least this additional reason, the Applicants submit that claim 11 is allowable over *Kaler*.

Turning next to claims 12-13, such claims each depend from claim 9 and thus are allowable for at least the reasons discussed previously with regard to claim 9. The Applicants also submit that each of claims 12-13 is independently allowable.

Claims 14-18 have been canceled by the present application without prejudice. Such claims have been canceled to focus the examination and to expedite allowance of other pending claims. Since such claims have been canceled, the statements in the Office Action regarding such claims are now moot and will not be addressed by the Applicants at the present time. The Applicants, however, expressly reserve the right to challenge any or all of such statements in the future should the need arise (e.g., if such statements should become relevant by appearing in a future rejection of a claim).

Turning next to independent claim 19, such claim is directed to a non-real-time playback environment for analyzing real-time performance of a modem. The Office Action, on page 17, admits that *Kaler* does not disclose “that the communication device” is a modem. Though the Applicants do not necessarily agree with the characterization of *Kaler*’s computing system (*e.g.*, a distributed data processing system) as a “communication device”, the Applicants do agree that *Kaler* does not disclose that *Kaler*’s computing system is a modem.

However, the Office Action, on page 17, then states that since it is well known within the computing art to utilize a modem as a communication device and one of ordinary skill in the art might be motivated to analyze the performance of a modem, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. Even if, for the sake of argument only, such statement is true, the common utilization of a modem as a communication device does not cure the deficiencies of *Kaler*, nor does the statement that one might want to analyze the performance of a modem.

As discussed previously, *Kaler* (*e.g.*, at FIG. 1 and col. 8, line 20 to col. 10, line 43) illustrates a hardware and operating environment with which embodiments of *Kaler*’s alleged invention can be practiced. The general-purpose computing or information-handling system 80 includes a PC 20 and a modem 54. Assuming, for the sake of argument only, that *Kaler*’s system 80 is a communication device as stated in the Office Action, such a communication device already has a modem. *Kaler* discusses the modem 54 briefly at col. 10, lines 3-8, stating, “When used in a WAN networking environment such as the Internet, PC 20 typically includes modem 54 or other means for establishing communications over network 52. Modem 54 may be internal or external to PC 20 and connects to system bus 23 via serial-port interface 46 in the embodiment shown.”

Since *Kaler* already discusses utilizing a modem for communication and such modem clearly does not meet the requirements of claim 19, the statement, whether true or not, that a modem is a common computer network communication device and that one might want to analyze its performance adds nothing to the disclosure of *Kaler* that helps *Kaler*’s disclosure teach each of the playback environment requirements of claim 19. For at least this reason, the Applicants submit that claim 19 is allowable over *Kaler*, as are all claims depending therefrom,

including claims 20-26 and new claims 42-46. The Applicants also submit that each of dependent claims 20-26 and 42-46 is independently allowable.

Additionally, claim 19 states, where the environment comprises: “a memory comprising input information that was obtained from a modem during real-time operation of the modem; and a playback module communicatively coupled to the memory, the playback module comprising a model of the modem that the playback module executes according to the input information in the memory”.

The Office Action, on page 17, states that *Kaler* discloses “a playback module communicatively coupled to the memory, the playback module comprising a model of the communication device that the playback module executes according to the input information in the memory (*see Figure 13, Column 32-28-34, ‘FIG. 13 illustrates a screen print of an animated application model which the present invention generates to show the structure and activity of an application whose performance is being studied.’*)”. The Applicants respectfully disagree with this characterization of *Kaler*.

For example, the Applicants submit that *Kaler*, at most, shows the generation of a visual depiction of the operation of *Kaler*’s distributed data processing system and not a model of a modem that is executed, as stated in claim 19. For example, at col. 4, lines 22-25, *Kaler* states, “The control station analyzes the events and visually displays the results of the analysis to the developer in a multi-windowed, time-synchronized display.” Also for example, at col. 19, *Kaler* states, “Using this information the VSA is able to piece together a functional block diagram of the system as described below. … This format makes it possible to draw a block diagram of the system, even though no one piece knows what the system should look like.”

The Applicants were unable to find reference in *Kaler* to a playback module that executes a model, much less a model of a modem. For at least this additional reason, the Applicants submit that claim 19 is allowable over *Kaler*, as are all claims depending therefrom, including claims 20-26 and new claims 42-46. The Applicants also submit that each of dependent claims 20-26 and 42-46 is independently allowable.

Turning next to claims 20-22, such claims each depend from claim 19 and thus are allowable for at least the reasons discussed previously with regard to claim 19. The Applicants also submit that each of claims 20-22 is independently allowable.

Turning next to claim 23, such claim depends from claim 19 and states, “wherein the model of the modem comprises a bit-exact software model of the modem that, when executed, produces results that are the same as an original modem that the bit-exact software model is modeling”.

The Office Action, on page 19, states that *Kaler* discloses “wherein the model of the communication device comprises a bit-exact software model of the communication device (*see Column 32: 57-62, ‘As new diagram elements are identified, they are added to the user’s screen 370.’; Column 35: 36-47, ‘... so that in real time as an application is being analyzed, one block will appear, then another, and then the interconnection between the two blocks. Blocks are dynamically added, removed, and moved, and the interconnections between them are dynamically changed to reflect changing conditions in the execution of the application. The diagram is kept up to date with what is really happening.’*”). The Applicants respectfully disagree with this characterization of *Kaler*.

As stated in the previous Office Action response, the Applicants respectfully submit that dynamic display of real-time conditions of an application does not teach a bit-exact software model of anything, much less the claimed “model of the modem” comprising “a bit-exact software model”.

In response to the above statement, the Office Action, at page 31, states, “*Kaler et al. disclose that blocks are dynamically added, removed, and moved, and the interconnections between them are dynamically changed to reflect changing conditions in the execution of the application and that the diagram is kept up to date with what is really happening. In other words, the model is being kept up-to-date (bit-exact) with the application as it is being executed. Thus, the resulting model is the same as the device it is modeling.*” The Applicants respectfully disagree with this characterization of *Kaler*.

Merely tracking the execution and flow of a portion of an application being monitored does not teach the execution of a model, much less the execution of a model of a modem, much less the execution of a bit-exact software model of the modem that, when executed, produces results that are the same as an original modem that the bit-exact software model is modeling. For example and without limitation, graphical blocks may be added, removed, and moved, and the interconnections between them may be dynamically changed to reflect changing conditions in

the execution of an application by merely monitoring events corresponding to process and/or function calls and returns (*e.g.*, as illustrated in the event fields of FIG. 6 of *Kaler*). Such a relatively high level of application tracking is clearly not indicative of the execution of a bit-exact software model. For at least these additional reasons, the Applicants respectfully submit that claim 23, as currently amended, is allowable over *Kaler*.

Turning next to claims 24-26, such claims each depend from claim 19 and thus are allowable for at least the reasons discussed previously with regard to claim 19. The Applicants also submit that each of claims 24-26 is independently allowable.

Turning next to independent claim 27, such claim, as currently amended, is directed to a method for analyzing real-time operation of a modem. Claim 7 is allowable for various reasons stated previously with regard to claims 9 and 19. For example and without limitation, the Applicants again submit that *Kaler* shows a modem (*e.g.*, modem 54) that does not meet multiple elements of claim 27, and the statement, whether true or not, that a modem is a common computer communication device and that one might want to analyze the performance of a modem do not result in *Kaler* teaching the claimed method for analyzing real-time operation of a modem. Additionally, the Applicants again submit that *Kaler*, at most, shows the generation of a visual depiction of a portion of the operation of *Kaler*'s distributed data processing system and not executing a model of a modem that is responsive to the recorded input, as stated in claim 27. For at least these reasons, the Applicants submit that claim 27 is allowable over *Kaler*, as are all claims depending therefrom, including claims 28-38.

Turning next to claim 28, such claim depends from claim 27 and states, "wherein: the first device comprises a personal computer; and utilizing the recording module comprises utilizing the recording module to cause the recording of the input information input to at least the first and second inputs of the modem to a memory device of the personal computer".

The Office Action, at page 23, states that *Kaler* discloses "wherein utilizing the recording module comprises utilizing the recording module to cause the recording of the input information to a memory device of a computer that is connected to the communication device (*see Column 8: 26-29; Column 12: 29-32, 'Data collection begins in the IECs. An IEC is a subroutine that marshals the desired data into a special format and puts it in a shared memory buffer.'; Column 13: 21-26.*)". The Applicants respectfully disagree with this characterization of *Kaler*.

First, as explained previously, *Kaler* does not provide any indication of one of *Kaler*'s IECs residing on a modem, and the statement, whether true or not, that a modem is a common communication device that one might want to analyze does not cure this deficiency of *Kaler*. Secondly, even if, for the sake of argument only, *Kaler* did teach an IEC residing on a modem, there is no indication of an IEC receiving input information from a personal computer and causing such information (among other things) to be stored back on a memory device of the personal computer. Also, the fact that a modem is a common computer communication device that one might want to analyze does not cure this deficiency of *Kaler*. For at least these additional reasons, the Applicants submit that claim 28 is allowable over *Kaler*.

Turning next to claims 29-34, such claims each depend from claim 27 and thus are allowable for at least the reasons discussed previously with regard to claim 27. The Applicants also submit that each of claims 29-34 is independently allowable.

Turning next to claim 35, such claim depends from claim 27 and states, "wherein: the model of the modem comprises a software component that is the same as a software component of the modem; and executing the model of the modem comprises executing the software component". The Applicants submit that *Kaler* shows no indication of a model of a modem comprising a software component that is the same as a software component of the modem, where executing the model of the modem comprises executing the software component. The statement, whether true or not, that modems are common for computer network communication and that one might want to analyze performance of a modem does not cure this deficiency of *Kaler*. For at least this additional reason, the Applicants submit that claim 35 is allowable over *Kaler*.

Turning next to claim 36, such claim depends from claim 27 and states, "wherein: the model of the modem comprises a hardware component that is the same as a hardware component of the modem; and executing the model of the modem comprises utilizing the hardware component". The Applicants submit that *Kaler* shows no indication of a model of a modem comprising a hardware component that is the same as a hardware component of the modem, where executing the model of the modem comprises utilizing the hardware component. The statement, whether true or not, that modems are common for computer network communication and that one might want to analyze performance of a modem does not cure this deficiency of

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Kaler. For at least this additional reason, the Applicants submit that claim 36 is allowable over *Kaler*.

Turning next to claims 37-38, such claims each depend from claim 27 and thus are allowable for at least the reasons discussed previously with regard to claim 27. The Applicants also submit that each of claims 37-38 is independently allowable.

New Claims

The present application adds new claims 39-46. New claims 39-41 each depend directly or indirectly from claim 9. Thus, such claims are at least allowable for the reasons discussed previously with regard to claim 9. The Applicants also submit that claims 39-41 are independently allowable. New claims 42-46 each depend directly or indirectly from claim 19. Thus, such claims are at least allowable for the reasons discussed previously with regard to claim 19. The Applicants also submit that claims 42-46 are independently allowable.

Final Matters

As a final matter, the Office Action makes various statements regarding former claims 1-38, 35 U.S.C. § 103, *Kaler*, one of skill in the art, and official notice that are now moot in light of the previous comments and/or amendments. Thus, the Applicants will not address such statements at the present time. However, the Applicants expressly reserve the right to challenge any or all of such statements in the future should the need arise (e.g., if such statements should become relevant by appearing in a rejection of any current or future claim).

Summary

In summary, the Applicants submit that claims 9-13 and 19-46 are allowable over *Kaler* and in condition for allowance. Accordingly, the Applicants courteously solicit a Notice of Allowability with respect to all pending claims. The Applicants take this opportunity to respectfully request an Examiner Interview to discuss the pending claims, *Kaler* and the present response. In particular, the Applicants request such an Examiner Interview prior to any final rejection of the pending claims. The Applicants invite the Examiner to contact the undersigned at 312-775-8000 to arrange such an interview at the Examiner's convenience. Additionally, if the Examiner has any further questions, the Applicants invite the Examiner to contact the undersigned to discuss such questions.

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The Commissioner is hereby authorized to charge additional fees or credit overpayments to the deposit account of McAndrews, Held & Malloy, Account No. 13-0017.

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Respectfully submitted,

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